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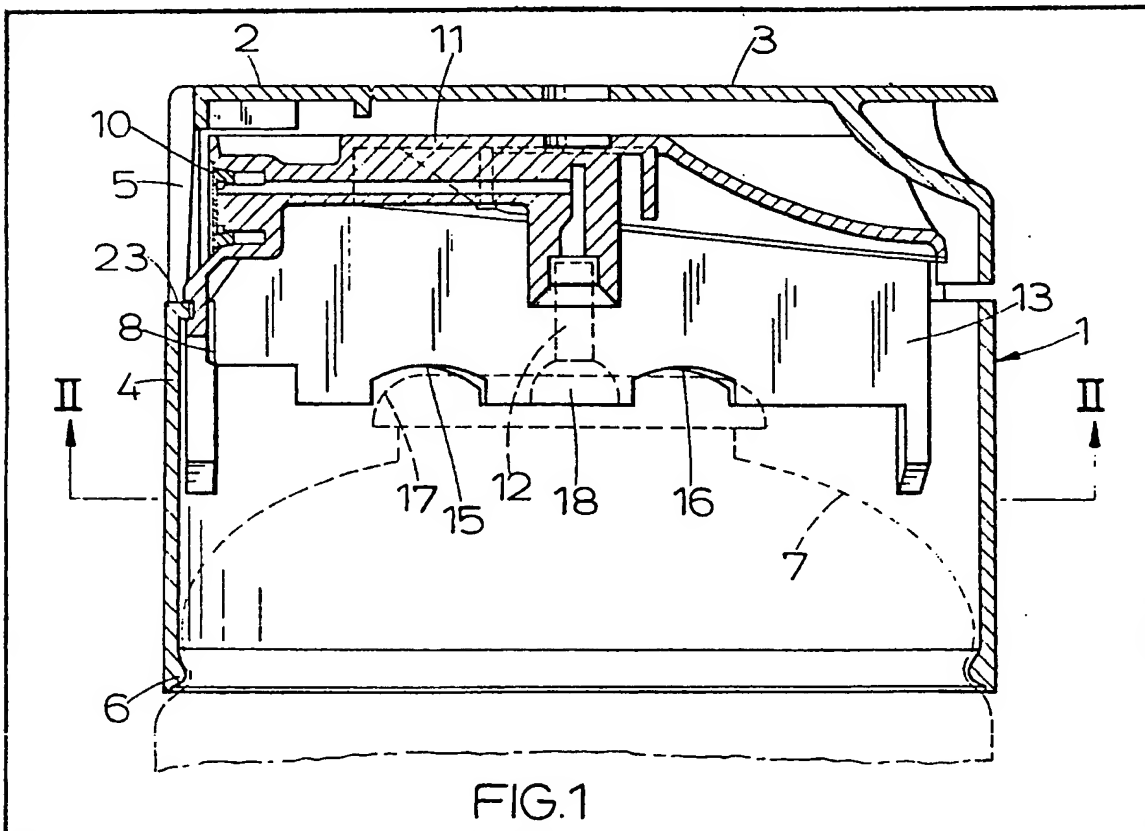
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(54) Actuator cap for pressurised
dispensers

(57) In a large-diameter actuator cap of
a known general kind having internal

transverse walls 13 with the actuator
11 between them, the lower edges of
these internal walls are notched (15,
16,) to engage over the rim of a
standard valve mounting cup and give
added stability and strength. This
allows the cap to be made with
thinner walls, and therefore less total
material, than hitherto without
detracting from its ability to meet
minimum requirements on stiffness
and strength.



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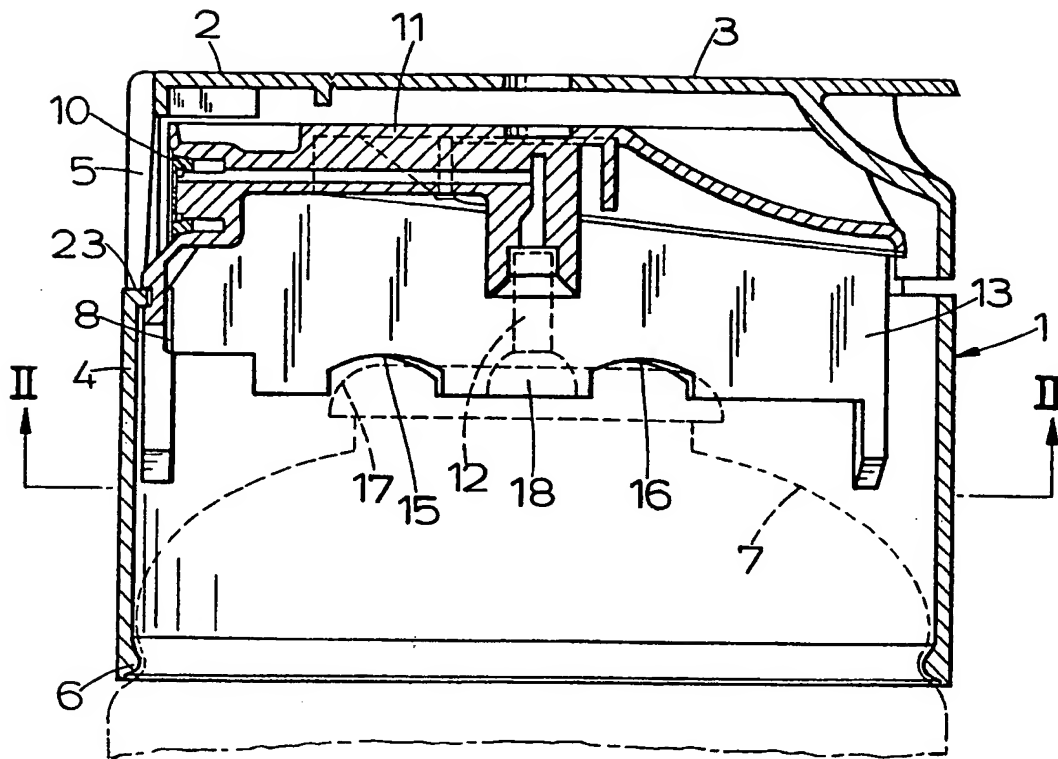


FIG. 1

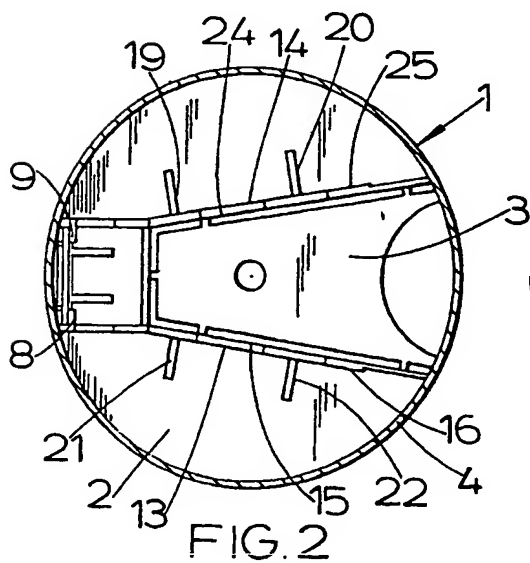


FIG. 2

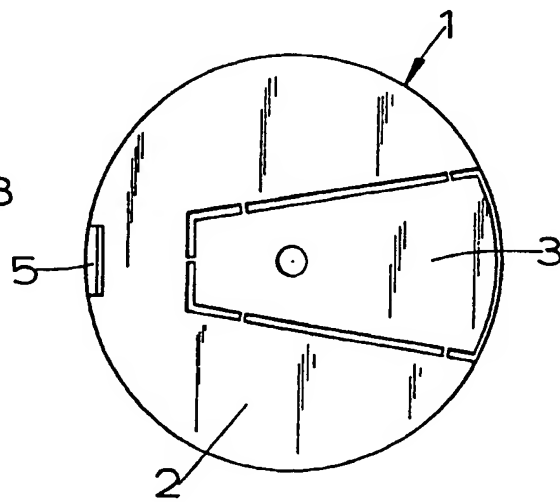


FIG. 3

SPECIFICATION

Actuator cap for pressurised dispensers

This invention relates to actuator caps for hand-held pressurised dispensers such as are commonly known as aerosol containers.

One popular type of cap is of large diameter, substantially equal to that of the can on what it is mounted, and contains an actuator accessible from above (possibly after removal of a tamperproof tab) and engaging the hollow stem of the valve on the can. These large-diameter caps must be made as cheaply as possible but the amount of plastics material, the price of which rises continually, involved in their manufacture makes it difficult to keep the cost down. One can reduce the thickness of the walls of the cap but there is a limit to the extent that this can be done since the cap must have sufficient strength to withstand a number of containers being stored one on top of another. Also it must not be too easy to remove the cap from the container, and there must be no danger of the cap itself tearing when the user pulls off the tamperproof tab.

The aim of the invention is to provide an actuator cap in which the quantity of plastics material used is less than that hitherto, yet without making the cap unacceptably weak and flexible when mounted on the container.

According to the invention this is achieved by an actuator cap for pressurised dispensers comprising an outer cylindrical wall and a top wall, the latter partly comprising a tear-off tamperproof tab, and two spaced-apart internal transverse walls lying in vertical planes and extending downwards from the top wall, between which there is an actuator for engagement with a valve on a container on which the cap is mounted, characterised in that the lower edges of the transverse walls have notches in them, lying on a circle and placed so as to engage the rim of a standard mounting cup in which the valve on the container is mounted.

These notches by which the internal walls engage the valve mounting cup give the cap added rigidity, when it is on the container and, during storage, allow the weight of a container above to be transmitted directly to the mounting cup without deflecting the cap.

There could be a single notch in each transverse wall, bridging the rim of the mounting cup along a chord, but preferably there are two separate spaced notches in each wall, each notch being only wide enough to fit the rim at the appropriate angle.

There may be stiffening webs where the internal transverse walls meet the top wall.

The invention will now be described by way of example with reference to the accompanying drawings, in which:—

Figure 1 is a vertical section through a cap according to the invention;

Figure 2 is a horizontal section on the line II—II in Figure 1; and

Figure 3 is a plan view of the cap from above.

The cap illustrated comprises a body 1 of generally pot-like shape, with a flat disc-like top wall 2 and a cylindrical side wall or skirt 4 extending downwards from the top wall. The top wall 2 is interrupted by a tamperproof tab 3 which forms part of it and is joined to the remainder of the wall by breakable webs in a well-known manner. An opening 5 in the skirt 4 allows the spraying to take place, as will be described, and a rib 6 at the lower edge of the skirt is designed to snap into a groove around the periphery of the upper end of a container 7 (shown in broken lines in Figure 1) on which the cap is mounted in a known manner.

An actuator 11 within the cap is designed to engage the hollow stem 12 of a valve on the container, again in a known manner, and has a nozzle 10 at its front end from which the spraying takes place. This front end is shaped to be received in two laterally spaced vertical guides 8 and 9 (Figure 2) formed on the inside of the skirt 4 on opposite sides of the opening 5, and is sufficiently flexible to act as a hinge when (after removal of the tab 3) the user depresses the rear end of the actuator 11 to open the valve on the container and discharge the contents. The front end of the actuator is held in place after assembly by snapping over the lower edge of the opening 5, as indicated at 23.

Two flat internal walls 13 and 14 having their planes vertical and joined at their upper edges to the underside of the top wall 2, extend transversely across the cap, being spaced apart to lie one on each side of the actuator 11. At their front ends the walls are parallel, and join the skirt 4 at the guides 8 and 9 respectively, whilst their main portions diverge slightly, to match the shape of the actuator, and they join the skirt again on the opposite side from the guides.

The lower edges of the two walls 13 and 14 are horizontal (when the cap is mounted on an upright container) and are at a level, in relation to the bottom of the skirt 4, such that they lie below the horizontal plane of the rim 17 of a standard one-inch mounting cup by which the valve is mounted on the container 7. The spacing of the walls is such that they traverse the rim 17 of the mounting cup along two non-parallel chords, and they are notched at 15, 16, 24 and 25 so as to embrace that rim at four points lying (necessarily) on a circle. Portions 18 (Figure 1) of the lower edges of the walls 13 and 14, between the notches, enter the mounting cap itself, although in a modification (not shown) these portions could be omitted so that each wall has only a single long notch embracing the rim of the cup.

It will be appreciated that the notches 15, 16, 24 and 25 locate the walls 13 and 14 directly in relation to the mounting cup and stabilise the cap 1 on the container 7. Moreover, vertical loads on the top wall 2 (for example the weight of other containers during storage) are transmitted straight down through these vertical walls 13 and 14 onto the mounting cup. Additional stability and stiffness are provided by triangular webs 19,

20, 21 and 22 (Figure 2) between the top wall 2 and the internal walls 13 and 14.

These features, especially the notches, allow the cap as a whole to be made with thinner walls, and therefore less total weight of plastics material, than would otherwise be possible, given certain minimum standards of strength and stiffness.

The notches 15, 16, 24 and 25 also help to locate the cap centrally in relation to the valve, despite some degree of possible flexibility in the skirt 4 due to its low thickness. In a modification the notches may be shaped to have a snap engagement with the rim of the mounting cup, so as to hold the cap in place, and then the bead 6 on the skirt 4 can be omitted and the cap can be used on containers that do not have an external annular groove.

Claims

1. An actuator cap for pressurised dispensers comprising an outer cylindrical wall and a top wall, the latter partly comprising a tear-off

tamperproof tab, and two spaced-apart internal transverse walls lying in vertical planes and extending downwards from the top wall, between which there is an actuator for engagement with a valve on a container on which the cap is mounted, characterised in that the lower edges of the transverse walls have notches in them, lying on a circle and placed so as to engage the rim of a standard mounting cup in which the valve on the container is mounted.

2. An actuator cap according to claim 1 in which there is a single notch in each transverse wall, designed to bridge the rim of the mounting cup along a chord.

3. An actuator cap according to claim 1 in which there are two of the said notches, spaced apart, in each transverse wall.

4. An actuator cap according to any one of claims 1 to 3 including stiffening webs between the top wall and the transverse walls.

5. An actuator cap for a pressurised dispenser, substantially as described with reference to the accompanying drawings.